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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/594,071

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EXAMINER

DEGHAN, QUEENIE S

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/594,071	Applicant(s) TOBISAKA ET AL.	
	Examiner QUEENIE DEGHAN	Art Unit 1741	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2012.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 1 and 3-22 is/are pending in the application.
- 5a) Of the above claim(s) 5-14 is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1,3-4,15-22 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1, 3-4, 12, 15, and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugiyama et al. (2004/0129027) in view of Mileo et al. (7,215,857) and Bang (2003/0005729). Sugiyama teaches a method for processing a glass base material for optical fiber using an apparatus. The apparatus comprising a pair of rotatable chucks (16) that grasps respective ends of the glass base material (fig. 1, [0022], [0026]) and that are capable of performing relative displacement in an opposing direction (as indicated by arrow in figure 1), a burner for heating the glass base material that is movable along the axial direction as depicted by the arrow on burner (17) in figure 1 ([0022]), and at least one midway holding device (18) in figures 2 and 4 that supports a midway part of the glass base material. Sugiyama discloses the midway holding device has adjustable means for supporting the glass base material ([0028]), but does not specify a spring or air cylinder. Bang discloses a method for processing a glass base material comprising a lathe with rotatable chucks for grasping the ends of the glass base material, a burner for heating the glass base material and a device that holds a midway part of the glass base material to level it, wherein the holding/leveling device comprises a spring and an air cylinder that provides an adjustable pressure to support the glass base material when leveling the base material ([0012]-[0013], [0030]-[0031]). Applying an adjustable pressure means, such as a spring and/or air cylinder to

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the midway holding device of Sugiyama would allow for precise positioning of the glass base material when offering support and therefore would be obvious to one of ordinary skill in the art to utilize a spring and/or air cylinder means for the midway holding device of Sugiyama. Sugiyama further discloses processing the glass base material while preventing the glass base material from being brought into a cantilever state by always supporting the glass base material at two or more points. Sugiyama teaches processing steps such as cutting of the glass base material or attaching of dummy rods at the ends, results in cantilevering one end of the glass rod. This induces a bend in the glass rod and stresses at the chuck holding the cantilevered rod. Sugiyama suggests in these situations, a supporting structure for holding the midway portion of the glass rod should be utilized ([0027], [0028], [0036], [0037], figures 1, 4).

3. Sugiyama also does not disclose specifics for an elongation process. Mileo teaches an elongation process for a glass rod comprising supporting the glass rod on a pair of rotatable holders and heating the glass rod along the axial direction with a burner that is movable along the axial direction ([col.1 lines 55-67, col. 5 lines 54-67, col. 6 lines 1-7]). Mileo essentially demonstrates the elongation process can be performed without the assistance of a midway holding device. Other processes such as cutting of the glass rod or attaching a dummy rod involves removing the glass rod from one of the end chucks due to the severing or freeing up the end for attachment. However, both ends of the glass rod in the elongation process are always supported, therefore providing for support in at least two points at all times during elongation. Accordingly, performing an elongation process in the apparatus of Sugiyama would suggest moving

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the holding devices aside to the vicinity of the chucks so as to not hold the midway part of the glass rod, since the glass rod is already supported at two points at the ends. This would naturally involve the releasing of the midway holding device from the midway part of the glass base material and placing it in the vicinity of the chucks to be out of the way. Because the glass rod does not experience a cantilever state in an elongation process, there would be no reason to utilize the midway holding device during elongation, as suggested by Sugiyama. Sugiyama recognizes the device can be used to perform other processes ([0037]). Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the invention to have similarly performed the elongation step of Shimizu in the process of Sugiyama, wherein the midway holding devices are moved aside so as to not support the glass rod at the midway part, as both Sugiyama and Shimizu employs similar apparatus features and elongation is a well known process for preparing a glass rod with a desired diameter.

4. As just mentioned Sugiyama discloses moving the holding device, wherein the device slides along the base (13) ([0022]), but does not disclose a driving source such as an air cylinder for moving the holding device. However, there are several well-known means for a driving source, including motors and air cylinders. Bang discloses the movement of the holding device in an upward and downward motion by use of an air cylinder ([0030]-[0031]). Although not specifically employed for traversing the holding device along the length of the glass base material, nonetheless, it would have been obvious to one of ordinary skill in the art at the of the invention to employs such well known means for a driving source, such as air cylinder in the moving of the midway

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holding device of Sugiyama, as it predictably provides for the means to move the device in a control fashion.

5. Regarding claim 3, at least one of the two points at which the glass base material is supported is at the midway part of the glass material, as can be seen in figures 2 & 4.

6. Regarding claims 4 and 12, the glass base material is held at two midway parts (figure 4).

7. Regarding claim 15, Sugiyama discloses utilizing the apparatus for other processes that requires supporting the glass preform such as a welding process for attaching dummy glass rods to elongate the glass preform ([0037]).

8. Regarding claim 19, Sugiyama discloses a movable headstock (15) comprising a rotatable chuck and that moves along the axial direction of the glass base material ([0022], [0026]). Sugiyama also discloses the holding device (18) is movable along an axial direction of the glass base material and it appears to be independent from the movement of the headstock ([0028], [0022]).

9. Regarding claim 20, Sugiyama discloses a plurality of rollers (22), each on a supporting arm (21), made of carbon, a heat resistant material ([0028], [0030]-[0031]).

10. Regarding claim 21, since all the supporting arms (21) are attached to strut (20), the moving of the supporting arms would be in a constant interval when moving toward the chucks.

11. Claims 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugiyama et al. (2004/0129027) in view of Mileo et al. (7,215,857) and Bang (2003/0005729), as applied to claim 1 above, in further view of Shimizu et al. (JP

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abstract 2000-143268 and machine translation). As mentioned above, Sugiyama teaches other processes involving the heating of a glass rod mounted on a horizontal lathe and held by chucks at either ends. Sugiyama discloses utilizing the apparatus for other processes that requires supporting the glass preform in a horizontal lathe such as a welding process for attaching dummy glass rods to elongate the glass preform ([0037]). However, Sugiyama does not specify a spindle shaping step. Shimizu also teaches a similar process comprising supporting a glass rod on a pair of chucks, heating the glass rod with a movable burner while stretching the glass rod, and producing a spindle shape end to the glass rod (drawings 1 & 2, abstract, [0011]). As discussed above, since spindle shaping results in one end of the glass rod to be cut, then it would have been obvious to one of ordinary skill in the art at the time of the invention to have used the apparatus of Sugiyama comprising the holding device for the spindle shaping process of Shimizu as this process results in one end of the glass rod to be in a cantilevered state, which would require support at that end to prevent bending of the glass rod. Furthermore, Shimizu teaches the spindle shaping step provides for a preform end shape that helps reduce the drawing time and material loss ([0005]). Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the invention to have employed a spindle shaping step in the process of Sugiyama as it provides for reduced drawing time for the preform and fiber. Such a spindle shaping step would have been preformed after an elongation step since drawing is performed when the preform has achieved the desired diameter in order to produce fiber with proper diameter and core clad ratio. Also, it the spindle shaping step that is providing

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for the shape necessary to help reduce the drawing time, Clearly, the spindle shaping step would have been performed right before drawing, after elongation.

12. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sugiyama et al. (2004/0129027) in view of Mileo et al. (7,215,857) and Bang (2003/0005729), as applied to claim 1 above, in further view of Lysson et al. (EP 0 623 563). Sugiyama does not disclose a flame polishing step. Lysson teaches a similar process comprising supporting a glass rod at its ends on chucks, heating the glass rod with a movable heater along the axial length of the glass rod and flame polishing the glass rod. It would have been obvious to one of ordinary skill in the art at the time of the invention to have employed a flame polishing step in the process of Sugiyama as it provides for a better quality surface on the rod. Furthermore, a similarly discussion above regarding the elongation process can be applied. Since the glass rod is already supported at two points at the end by chucks, and the glass rod does not result in a cantilevered state, then the midway holding devices would be appropriately moved aside to the vicinity of the chucks, allowing for the burner to traverse for the flame polishing step. Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the invention to have expected the holding device of Sugiyama to be at ends of the glass base material, such as at the vicinity of the chucks, since support of the glass base material would not be expected because the rod is already supported at both ends.

Response to Arguments

13. Applicant's arguments with respect to Sugiyama and Mileo have been considered but are moot in view of the new ground(s) of rejection. The applicant's arguments are directed towards the newly amended limitations of the claim 1, which include an adjustable supplied pressure and a spring or air cylinder. Due to these amendments a new rejection has been presented, making the arguments moot.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to QUEENIE DEGHAN whose telephone number is

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(571)272-8209. The examiner can normally be reached on Monday through Friday
8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Daniels can be reached on 571-272-2450. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Queenie Dehghan/
Primary Examiner, Art Unit 1741